calculated for copper oxide. Propylene was oxidized at 368-370° according to a method earlier described (Refs 4, 5). Contact time was 2 sec. The catalytic oxidation was carried out for 1 hour and the mixture was then cooled. The experimental results are given in table 1. Therefrom it may be seen that catalysts in which the Cu concentration corresponds to 1.5% CuO irrespective of the initial phase composition, show a similar chemical composition (about 70% Cu_2O and about 30% CuO) after an interaction of 1 hour of the system catalyst - propylene - oxygen. It is interesting that the ratio of monovalent to bivalent copper in this catalyst depends to a comparatively small extent on the composition of the reagent gas mixture. Furthermore, table 1 shows that the quantity of propylene transformed per hour on the catalyst into carbonyl compounds is different in each experiment and depends largely on the composition of the initial mixture. The amount of acrolein, however, does not differ very much. Apparently, also other carbonyl compounds are formed in this case which can explain the above-mentioned fact. Furthermore, propylene can be oxidized up to CO_2 and H_2O. Therefore, there is no accordance

between the change in the chemical composition of the catalyst on the action of the reagent gas and the catalyst activity. On the other hand, the composition of this mixture considerably influences the stability of the catalyst (Fig 1). In the presence of small quantities of oxygen (propylene-oxygen - 30:1) the catalyst is reduced more rapidly. It works in a less stable way, perhaps due to the transformation of cuprous oxide into copper. The composition of the catalyst depends not only on contact time but also (Table 1, Experiments 7-9 and 11) on the concentration of copper oxides on the carrier and the nature of the latter (Experiments 10, 12-14). Catalysts with 3-5% copper oxide change in their chemical composition up to the system $CuO + Cu_2O + Cu$. The appearance of metallic copper rapidly reduces the yield of carbonyl compounds. In addition to that, catalysts are deactivated by the sintering of copper oxide. In this case, it loses its capability of being reduced to cuprous oxide (Fig 2). Finally, these catalysts are deactivated on the surface by polymerization of acrolein. For the purpose of reactivating them a mixture rich in oxygen should

Changes in the Chemical Composition and Activity of Copper Catalysts During the Oxidation of Propylene to Acrolein SOV/20-124-4-31/67

pass over them during which copper is easily oxidized to CuO while the polymers are burnt. There are 2 figures, 1 table and 7 Soviet references.

ASSOCIATION: Vostochno-Sibirskiy filial Akademii nauk SSSR (East Siberian Branch of the Academy of Sciences, USSR)

PRESENTED: October 3, 1958, by B. A. Kazanskiy, Academician

SUBMITTED: October 25, 1958

Card 4/4

POPOVA, N.I.; VERMEL', Ye.Ye.

Studying the process of catalytic propylene oxidation. Report No. 4. Izv. Sib. otd. AN SSSR no. 11:89-96 '60. (MIRA 14:1)

1. Vostochno-Sibirskiy filial Sibirskogo otdeleniya AN SSSR.
(Oxidation) (Propene)

P[illegible]VA, N.I.; NIL'MAN, F.A.; STUKOVA, N.[illegible]; ZHDANOVA, K.P.

Studying the process of catalytic oxidation of propylene. Report No.5. Izv.Sib.otd.AN SSSR no.12:73-82 '60. (MIRA 14:2)

1. Vostochno-Sibirskiy filial Sibirskogo otdeleniya AN SSSR.
(Propylene) (Oxidation)

S/200/61/000/007/005/006
D238/D302

AUTHORS: Popova, N.I., Mil'man, F.A., and Latysheva, L.E.

TITLE: The oxidation of isobutylene to methylacrolein in the presence of copper catalysts

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Sibriskoye otdeleniye, no. 7, 1961, 77 - 82

TEXT: The object of this work was the more detailed investigation of the formation of methylacrolein by the catalytic oxidation of isobutylene, using copper catalysts and its identification and analysis. Difficulties were the highly exothermic nature of the reaction and the great polymerizability of methylacrolein which at room temperature polymerizes completely in two hours. Methylacrolein is of great value in the plastics industry as a source of many products. Two basic methods of preparation are outlined - that already mentioned and the croton condensation of formaldehyde and propionic aldehyde. Detailed results of the oxidation of isobutylene are

The oxidation of isobutylene ...

shown, revealing a high yield of carbonyl compounds and selectivity of the reaction. The catalyst undergoes partial reduction to cuprous oxide reaching a steady state composition of about 70 % monovalent copper and 30 % divalent copper. Comparative results are given for the oxidation of isobutylene and propylene. In both cases the carbonyl compounds have a high unsaturated aldehyde content and as the carbon monoxide content in the gases at the end of the reaction is zero there appears to be no aldehyde dissociation on the catalyst. The yield of isobutylene at a volume speed of 6000 reaches 413 gr.from a liter of catalyst per hour. Methylacrolein was synthesized by the croton condensation of formaldehyde and propionic aldehyde in the presence of a boron fluoride and water complex working to data taken from Wm.F. Gresham (Ref. 6: Patent SShA(USA Patent) 2549457, 1951) but elaborated and made more accurate during the course of the work. An increase in the formaldehyde-propionic aldehyde ratio to ascertain the level increases the yield of methylacrolein, of which 53 gr. were obtained, after fractional distillation, with physical constants in accord with those given in the literatu-

Card 2/4

The oxidation of isobutylene ...

re. The possibility of polargraphic analysis of aqueous solutions of methylacrolein was shown; calibration curves plotted its dissociation potential worked out for the first time. To identify the unsaturated aldehydes their physical properties were studied. Aqueous solutions of methylacrolein obtained by each method gave identical curves with similar potential. Similarly, aqueous solutions of these aldehydes and alcoholic solutions of their 2:4 dinitrophenylhydrazones have the same absorption maxima in the ultraviolet spectrum. After distillation a group of aldehydes was obtained containing 82.5 % methylacrolein and since part of the latter is polymerized the content is in fact higher. After describing the experiments on oxidation of isobutylene -- relatively pure isobutylene was obtained by the dehydration of isobutyl alcohol, the authors conclude that: isobutylene oxidizes selectively to methylacrolein in the presence of copper catalysts; carbonyl groups formed during the reduction contain 82. 5 % of methylacrolein: The syntheses of methylacrolein by the croton condensation of formaldehyde and propionic aldehyde was investigated; certain physical constants of methylacrolein were

determined for the first time, in particular the half wave dissociation potential and the absorption spectra in ultraviolet light of aqueous solutions of the methylacrolein. There are 5 tables, 4 figures and 10 references: 2 Soviet-bloc and 8 non-Soviet-bloc. The references to the 4 most recent English-language publications read as follows: I. Ballard, H. Finch, E.A. Peterson, USA Patent 2767221, 1950; H. Finch, A.D. Benedictis, USA Patent 2779801, 1957; Smit, Holms, USA Patent 2774928, 1950; W.F. Forbes, R. Shilton, J. Am. Chem. Soc., 81, 787, 1959.

ASSOCIATION: Institut khimii vostochno-sibirskogo filiala SO AN SSSR, Irkutsk (Chemical Institute of the East Siberian Section, Siberian Branch AS USSR, Irkutsk)

SUBMITTED: July 26, 1960

POPOVA, N.I.; STUKOVA, R.N.; LATYSHEV, V.P.

Study of catalytic oxidation of propylene. Report No.6: Interrelation of voluminal and surface factors in the oxidation of propylene into acrolein. Izv.Sib.otd.AN SSSR no.8:78-82 '61. (MIRA 14:8)

1. Vostochno-Sibirskiy filial Sibirskogo otdeleniya AN SSSR, Irkutsk.

(Propene) (Acrolein) (Oxidation)

POPOVA, N.I.; ZHDANOVA, K.P.

Studying the catalytic oxidation of propylene. Report No.7: Studying the sorption of propylene by copper catalysts on silicon carbide and aluminum oxide by A.M.Rubinshtein's dynamic method. Izv.Sib.otd.AN SSSR no.12:48-52 '61. (MIRA 15:3)

1. Vostochno-Sibirskiy filial Sibirskogo otdeleniya AN SSSR, Irkutsk.
(Propene) (Adsorption) (Catalysts, Copper)

S/195/61/002/002/003/004
B101/B208

AUTHORS: Popova, N. I., Ye. Ye. Vermel'

TITLE: Oxidation of diolefins on copper catalysts

PERIODICAL: Kinetika i kataliz, v. 2, no. 2, 1961, 235-239

TEXT: In the present paper the oxidation of piperylene and isoprene on copper catalysts is studied. It was assumed that the selective effect of the catalyst will give rise to oxidation of the CH_3 group being in α-position to the double bond, and to the formation of the corresponding dienals which might be useful for the preparation of polymers or drugs of the β-carotene type. The apparatus has already been described (Ref. 3: Dokl. AN SSSR, 117, 1000, 1957). The U-shaped reaction vessel was dipped into molten saltpeter. The hydrogen carbon was brought into the reaction vessel by bubbling N_2 through it. The resultant aldehydes were identified on the basis of their 2,4-dinitro-phenyl hydrazones, and polarographically in 0.1 N HCl. Gas analysis was carried out on a BTH (VTI) apparatus. The Raman spectrum of the piperylene applied disclosed that this consisted of cis and trans piperylene. The catalysts were prepared from compounds which easily decom-

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Oxidation of ...

posed on annealing. Silit was used as the carrier. The specific surface of the catalysts was about 1 m^2/g. The results are presented in Tables 1, 2. Intense oxidation to CO_2 and H_2O occurred with pure CuO. Addition of MoO_3 or WO_3 (1% calculated for CuO) increased the selectivity. The same effect was exerted by selenium vapor. The yield of carbonyl compounds linearly increased with temperature, as well as with increasing O_2 content of the initial gas. With more than 25% O_2, however, CO_2 formation rapidly increased. Fig. 5 shows the yield of carbonyl compounds as a function of the volume rate v_o (hr^{-1}). The optimum conditions were found from these data: temperature 400-410°C, v_o = 4000 hr^{-1}, composition of the initial gas 25% O_2, 15-20% piperylene, 60-55% N_2. The carbonyl compounds were condensed by a mixture of n-propanol and solid CO_2 (-75°C), and fractionated at 48 mm Hg. Table 3 presents the data for 2,4-pentadienal-1 obtained from piperylene. The resultant product was purer than that obtained by E. L. Pippen, M. Nonaka (Ref. 7, see below). The UV band at 325 mμ mentioned by these scientists may be due to impurities. The oxidation products of isoprene could not yet be isolated in pure condition. As, they form, however, 2,4-dinitro-phenyl hydrazones, they consist of carbonyl compounds. In the

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Oxidation of ...

polarographic reduction in acid medium only one wave ($-E_{1/2}$ = 1.3 v) could be observed. This substance is therefore an unsaturated carbonyl compound with conjugate double bonds. There are 5 figures, 3 tables, and 9 references: 4 Soviet-bloc and 5 non-Soviet-bloc. The 3 references to English language publications read as follows: Ref. 4, D. J. Hadley, et al., J. Chem. Soc., 1954, 1416; Ref. 7, E. L. Pippen, M. Nonaka, J. Org. Chem., 23, 1580, 1958; Ref. 8, G. E. Woods, H. Sanders, J. Amer. Chem. Soc., 68, 2483, 1946.

ASSOCIATION: Institut khimii Vostochno-Sibirskogo filiala SO AN SSSR, Irkutsk (Institute of Chemistry of the Eastern Siberian Branch of the Siberian Department, AS USSR, Irkutsk)

SUBMITTED: June 20, 1960 (initially); October 27, 1960 (after revision)

Oxidation of ...

(1) Катализатор (на силите)	(2) Объемная скорость, v_o, $час^{-1}$	(3) Выход карбонильных соединений, г/л·час	(4) Степень превращения C_5H_8, x, %	(5) Селективность, %
0,3% CuO (6)	1800	25,5	5,4	35,1
1,5% CuO, добавка MoO_3	1800	66,8	9,7	57,7
0,5% CuO (7) с Se	1800	61,5	—	—
1,5% CuO, добавки MoO_3 и WO_3	1800	90,0	10,3	63,2
(8) То же (6)	2700	99,2	7,58	65,2

Table 1. Oxidation of piperylene (400-410°C, $C_5H_8:O_2:N_2$ = 1:1.16:1.84). Legend: 1) catalyst (on Silit); 2) volume rate v_o, hr^{-1}; 3) yield of carbonyl compounds, g/l·hr; 4) degree of conversion x of C_5H_8, %; 5) selectivity; 6) admixture; 7) with; 8) ditto.

(1) Катализатор (на силите)	(2) v_o, $час^{-1}$	(3) Выход карбонильных соединений, г/л·час	(4) x, %	(5) Селективность, %
1,5% CuO, добавка MoO_3	2000	107,5	—	—
0,5% CuO, добавка MoO_3	1750	60,8	—	—
1,5% CuO, добавки MoO_3 и WO_3	2000	61,8	4,4	58,0
(3) То же	2950	103,6	6,3	60,2

Table 2. Oxidation of isoprene (400-410°C; $C_5H_8:O_2:N_2$ = 1:1.1:1.75). Legend as in Table 1.

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Oxidation of ...

Fig. 5: Yield of carbonyl compounds in the oxidation of piperylene as a function of v_0 (conditions as in Table 1, Cu + MoO_3 + WO_3). Legend: a) hr^{-1}; b) yield of carbonyl compounds, g/l·hr.

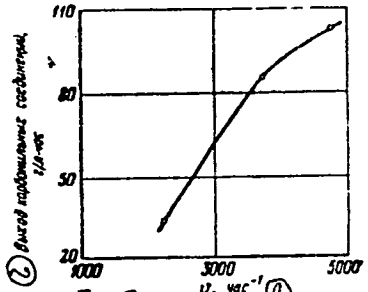

Fig. 5

(1) Температура кипения, °C	n_D	(2) Потенциал полуволны, v	(3) Максимум поглощения (в ультрафиолете) спиртового р-ра, mμ	(4) Константы 2,4-динитрофенилгидразона: Максимум поглощения (в ультрафиолете) спиртового р-ра, mμ	Температура плавления, °C	Содержание азота, %	(5) Примечание
52—54	1,5110 (25°)	—	258,5 325,0	384	180—181	21,37 расчет (6)	Данные (7) (7-8)
52—53	1,5085 (24°)	0,73 1,05	258,5	384	176—177 175—176	20,90 найдено (8) 21,60 найдено (8)	Настоящая работа (8)

Card 5/6

Oxidation of ...

Table 3. Constants of 2,4-pentadienal-1, obtained by oxidation of piperylene (distillation at 48 mm Hg). Legend: 1) boiling temperature; 2) potential of the half-wave, v; 3) absorption maximum of the alcoholic solution in ultraviolet, mμ; 4) constants of 2,4-dinitro-phenyl hydrazone; a) absorption maximum in UV; b) melting point; c) N-content; d) calculated; e) found; 5) note; f) data of Refs. 7, 8 (see below), g) data obtained by the authors.

Card 6/6

POPOVA, N.I.; STEPANOVA, R.N.; STUKOVA, R.N.

Modification of copper catalysts for the oxidation of propylene to acrolein by the addition of molybdenum and tungsten oxides. Kin.i kat. 2 no.6:916-919 N-D '61. (MIRA 14:12)

1. Institut nefte- i uglekhimicheskogo sinteza Sibirskogo otdeleniya AN SSSR, Irkutsk.
(Propene) (Acrolein) (Catalysts)

S/200/62/000/011/002/008
D204/D307

AUTHORS: Popova, N. I. and Mil'man, F. A.

TITLE: A study of the oxidation kinetics of isobutylene on copper catalysts

PERIODICAL: Akademiya nauk SSSR. Sibirskoye otdeleniye. Izvestiya, no. 11, 1962, 59-65

TEXT: The aim of the present work was to study the oxidation kinetics of isobutylene to methylacrolein and CO_2 in the presence of various concentrations of the catalyst (0.1 - 1.5% CuO) on the carrier (silite). The reaction did not take place in the absence of catalyst, even at 370 - 400°C. In the presence of catalyst (0.5 and 0.1% CuO), at 320°C, the rates of the formation of methylacrolein and CO_2 did not depend on the concentration of isobutylene (between 20 and 80% iso-C_4H_8) but were of first order w.r.t. oxygen, in the region 7 - 25% O_2. The variation of first order rate

Card 1/3

constants with temperature (~250 - 400°C) was determined for catalysts containing 1.5 and 0.1% CuO on the carrier, for the mixture 40% iso-C_4H_8, 10% O_2, 50% N_2. The results are compared with those of the oxidation of propylene into acrolein and CO_2, taken from the literature. The kinetic constants and activation energy (E_A) depended on the catalyst; thus E_A was 13 - 14 kcal for the 1.5% CuO and 20 - 22 kcal for the 0.1% CuO catalyst. This is explained by the fact that the ratio of various Cu oxides formed on the carrier during the reaction depends on the concentration of CuO. The selectivity of the process w.r.t. O_2 decreased strongly at 340 - 350°C for silite catalysts containing 1.5% CuO (I), 0.10% CuO (II) and 0,5% CuO (III). The decrease was from ~40 to ~20% for I, from ~50 to ~30% for III, and from ~70 for II, no constant lower value being attained in the latter case. This fall of selectivity is ascribed to a change from the initial mechanism, in which methylacrolein and CO_2 are produced side by side, to one in which the methylacro-

lein is further oxidized to CO_2. For catalysts I - III the selectivity w.r.t. the olefin increases and the percentage conversion decreases with decreasing concentration of CuO on the carrier. There are 3 figures and 4 tables.

ASSOCIATION: Institut nefte- i uglekhimicheskogo sinteza Sibirskogo otdeleniye AN SSSR, Angarsk (Institute of Petro- and Carbochemical Synthesis of the Siberian Branch of the AS USSR, Angarsk)

SUBMITTED: October 12, 1962

KALIBERDO, L.M.; PILOSYAN, V.A.; POPOVA, N.I.

Oxidation of propylene to acrolein on Cu/Al_2O_3 modified with molybdenum oxides. Kin.i kat. 3 no.2:237-240 Mr-Ap '62. (MIRA 15:11)

1. Institut nefte- i uglekhimicheskogo sinteza Sibirskogo otdeleniya AN SSSR, Irkutsk.
(Propene) (Acrolein) (Catalysts)

POPOVA, N.I.; VERÆL', Ye.Ye.; MIL'MAN, F.A.

Oxidation of some unsaturated hydrocarbons on copper catalysts.
Kin.i kat. 3 no.2:241-246 Mr-Ap '62. (MIRA 15:11)

1. Institut nefte- i uglekhimicheskogo sinteza Sibirskogo otdeleniya AN SSSR, Irkutsk.
(Hydrocarbons) (Oxidation) (Catalysts, Copper)

S/020/62/147/006/025/034
B144/B101

AUTHORS: Popova, N. I., Latyshev, V. P.

TITLE: Study of the mechanism of propylene oxidation on copper catalysts by separate calorimetry

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 147, no. 6, 1962, 1382-1385

TEXT: The temperature effect on the CO_2 formation on copper catalysts, was studied because of its decisive influence on the oxidation of hydrocarbons on these catalysts. A triple copper-constantan differential thermocouple was used to measure the difference in temperature of catalyst surface, interior of reaction vessel, and furnace, so as to find out whether heterogeneous oxidation is accompanied by homogeneous oxidation. The copper oxide catalyst had first been deposited on the wall of the reaction vessel from an aqueous copper nitrate solution by heating and passing air through. Before every experiment, the catalyst was stabilized by 1 hr treatment with propylene and O_2. Preliminary

Card 1/3

Study of the mechanism of ...

experiments showed that homogeneous oxidation of propylene and acrolein without catalyst did not occur at 300-400°C. When oxidizing propylene on copper oxide, the curve of Δt_1 (catalyst surface - interior of reaction vessel) showed that only heterogeneous oxidation occurred at 300-370°C, whereas at 400°C heterogeneous and homogeneous oxidations took place. The course of Δt_3 (interior of reaction vessel - furnace) shows homogeneous oxidation to prevail. This is caused by the faster oxidation of acrolein in the interior. Propylene oxidation as such is only heterogeneous, also at the above temperature. At 350-370°C, the oxidation of a mixture of propylene with 2-3% acrolein was of the same nature, but showed slightly lower values since the catalyst was poisened with decomposition products of acrolein. Over the whole region, the oxidation of acrolein is heterogeneous and homogeneous. The oxidation scheme of propylene on copper catalysts worked out by O.V. Isayev et al (DAN,129, 141 (1959)) was supplemented by the present experiments. The CO_2 formation was due to (1) direct oxidation of propylene on the catalyst; and (2) oxidation of an organic film forming on the catalyst by decomposition

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Study of the mechanism of ...

of acrolein and propylene; (3) heterogeneous and homogeneous oxidation of acrolein occurring mainly at high temperatures. There are 4 figures.

ASSOCIATION: Institut khimii Sibirskogo otdeleniya Akademii nauk SSSR (Institute of Chemistry of the Siberian Department of the Academy of Sciences USSR)

PRESENTED: May 19, 1961, by B.A. Kazanskiy, Academician

SUBMITTED: June 12, 1961

Card 3/3

POPOVA, N.I.; KABANOVA, B.V.

Oxidation of toluene on copper catalysts with added molybdenum and tungsten oxides. Kin. i kat. 5 no.2:324-329 Mr-Ap '64.
(MIRA 17:8)

1. Institut neftekhimicheskogo sinteza Sibirskogo otdeleniya AN SSSR.

POPOVA, N.I.; KABAKOVA, B.V.; MIL'MAN, F.A.; VERMEL', Ye.Ye.

Some features of the gas-phase oxidation of hydrocarbons on copper catalysts. Dokl. AN SSSR 155 no.1:149-152 Mr '64. (MIRA 17:4)

1. Institut nefte- i uglekhimicheskogo sinteza pri Irkutskom gosudarstvennom universitete. Predstavleno akademikom B.A.Kazanskim.

POPOVA, N.I.; LIPOVICH, V.G.; KABAKOVA, B.V.

Mechanism of toluene oxidation on copper catalysts with added heavy metal oxides studied by tracer technique. Dokl. AN SSSR 159 no.3:615-618 N '64 (MIRA 18:1)

1. Institut nefte- i uglekhimicheskogo sinteza pri Irkutskom gosudarstvennom universitete, Angarsk. Predstavleno akademikom B.A. Kazanskim.

POPOVA, N.I.

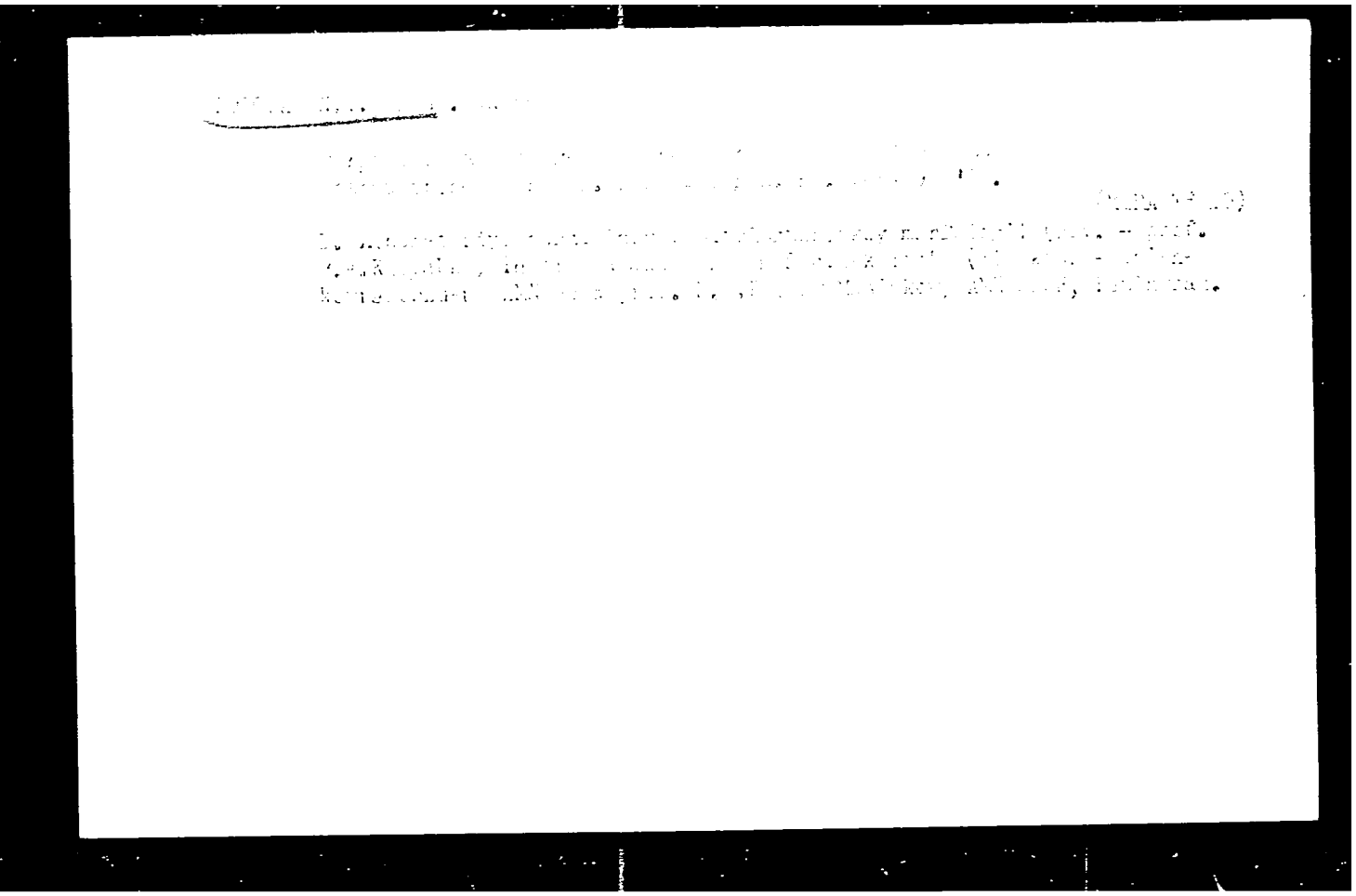
Specific properties of oxidation catalysts and the energies of their bonds with oxygen, hydrogen, and carbon atoms. Dokl. AN SSSR 160 no.1:139-142 Ja '65. (MIRA 18:2)

1. Institut nefte- i ugleknimicheskogo sinteza pri Irkutskom gosudarstvennom universitete im. A.A. Zhdanova. Submitted July 3, 1964.

POPOVA, N.I.; MIL'MAN, F.A.

Certain features of the oxidation of n-butenes and their mixtures over copper catalysts. Kin. i kat. 6 no.5:944-947 S-O '65. (MIRA 18:11)

1. Institut ugle- i neftekhimicheskogo sinteza, Angarsk.



POLYAK, N.I.; KARAVOV, B.V.

Vapor phase oxidation of xylenes on copper catalysts in the presence of heavy metal oxide admixtures. Kin. i kat. 6 no.[illegible] My-Je '65. (MIRA 18:10)

1. Institut nefte- i uglekhimicheskogo sinteza, Angarsk.

LATYSHEV, V.P.; KALIBERDO, L.M.; POPOVA, N.I.

Differential calorimetry method of studying the oxidation of propylene and propylene oxide on a silver catalyst. Kin. i kat. 6 no.1:167-171 Ja-F '65. (MIRA 18:6)

1. Institut nefte- i uglekhimicheskogo sinteza, Angarsk.

POPOVA, N.I.

Hygienic basis for the length of recesses in the primary school.
Trudy 1-go MMI 5:182-191 '59. (MIRA 13:8)

1. Iz kafedry shkol'noy gigiyeny (zav. - dotsent M.D. Bol'shakova)
1-go Moskovskogo ordena Lenina meditsinskogo instituta im.
I.M. Sechenova.
(RECESSES)

81523
SOV/137-59-5-10907

18.7100

Translation from: Referativnyy zhurnal, Metallurgiya, 1959, Nr 5, pp 209-210 (USSR)

AUTHOR: Popova, N.I.

TITLE: The Effect of Intermediate Transformation Products on Physical and Mechanical Properties of Structural Steel

PERIODICAL: V sb.: Materialy Nauchno-tekhn. konferentsii po probl. zakalki v goryachikh sredach i promezhutochn. prevrashcheniyu austenita, Vol 1, Yaroslavl', 1957, pp 180 - 192

ABSTRACT: The authors investigated the effect on σ_s, a_k (at +20 and -40°C) caused by intermediate transformation products, developing during isothermal quench-hardening at 300 - 450°C and 2 - 60 minutes holding, and the nature of breaks in 35KhN3M and 35KhN1M steels, tempered at 300 - 650°C. The amount of intermediate transformation products after isothermal quench-hardening was determined from isothermal transformation curves. It was established that any amounts of intermediate transformation products obtained at 300°C, do not reduce σ_s and a_k in comparison to martensite quench

Card 1/2

81523

SOV/137-59-5-10907

The Effect of Intermediate Transformation Products on Physical and Mechanical Properties of Structural Steel

hardening. If the temperature of isothermal quench hardening raises from 350° to 450°C, the amount of intermediate transformation products, entailing a substantial reduction of a_k and σ_s decreases from 50% down to 15 - 30%. In case of equal hardness, steels containing intermediate transformation products are in all cases inferior to martensite quench hardened steels with respect to a_k at +20 and -40°C. In high-tempered steel the presence of intermediate transformation products obtained at isothermal quench hardening temperatures $>$ 300°C, influenced the crystallinity in the break appearing at tempering temperatures (600° - 650°C) which were the higher, the higher was the temperature of isothermal quench hardening and the greater the amount of intermediate transformation products. Electron-microscopical examinations revealed in the intermediate transformation products an irregular distribution of carbides, coarsening with higher temperatures of isothermal quench hardening. After isothermal quench-hardening at 350° - 450°C, phase analyses revealed a decreased Cr, Mn and Mo concentration in the carbide deposit compared to martensite and isothermal quench-hardening at 300°C.

L.F.

Card 2/2

POPOVA, N.I., inzh.

Use of VChPD-59 and UT-1 equipment in organizing train dispatcher communications. Avtom., telem. i sviaz' 6 no.6:35-37 Je '62. (MIRA 15:7)

1. Atkarskaya distantsiya signalizatsii i svyazi Privolzhskoy dorogi.

(Railroads—Communication systems)

BOCHKAREV, P.S., redaktor; ZAUER, N.S.; POPOVA, N.I.; CHEKHARINA, V.I. [translators].

[Bulgaria; geographical sketches] Bolgariia; geograficheskie ocherki. Sokr. perevod s bolgarskogo N.S.Zauer, N.I.Popova i V.I.Chekharina. Predisl. i red. P.S.Bochkareva. Moskva, Izd-vo inostrannoi lit-ry, 1953. 493 p. (MLRA 6:10)

(Bulgaria--Description and travel)

SUNTSEVA, [illegible], referent; S[illegible]VA, N.S., veterinarnyy vrach (Chekh[illegible] Sotsialisticheskaya Respublika); S[illegible], Yu., veterinarnyy vrach (Chekhoslovatskaya Sotsialisticheskaya Respublika); POPOVA, N.I., referent

In the countries of people's democracy. Veterinariia [illegible] no.1: 107-[illegible] Ja [illegible]. (MIRA 1[illegible])

POPOVA, N.K.

Effect of muscular activity on their consumption of nitrogen-containing substances. Fiziol.zh.SSSR 37 no.1:103-109 Jan-Feb 51. (CLML 20:8)

1. Division of Metabolism, Leningrad Scientific-Research Institute of Physical Culture.

LESHKEVICH, L.G.; POPOVA, N.K.; YAKOVLEV, N.N.; YAMPOL'SKAYA, L.I.

Variations in the content of sugar, lactic acid, and lipoid phosphorus in the blood of sportsmen, during the pre-start period. Ukr.biokhim.zhur. 24 no.4: 464-477 '52. (MLRA 6:11)

1. Otdeleniye obmena veshchestv Nauchno-issledovatel'skogo instituta fizicheskoy kul'tury, Leningrad.
(Blood--Analysis and chemistry) (Physical education and training)

YAKOVLEV, N.N.; YAMPOLSKAYA, L.I.; LESHKEVICH, L.G.; POPOVA, N.K.

Biochemical changes in blood in athletes during competitive plays. Fiziol. zh. SSSR 38 no.6:739-747 Nov-Dec 1952. (CLML 23:4)

1. Division of Metabolism, Leningrad Scientific-Research Institute of Physical Culture.

POPOVA, N.K.

Effect of taste stimuli in increasing the ability to work. Opyt izuch.reg.fiziol.funk. no.3:334-342 '54. (MLRA 8:12)

1. Otdel obmena veshchestv Leningradskogo nauchno-issledovatel'skogo instituta fizicheskoy kul'tury
(TASTE) (WORK)

POPOVA, N.K.

Effect of synthomycin on Sechenov's inhibition. Farm.i toks. 19 supplement:10 '56. (MLRA 10:7)

1. Kafedra farmakologii (zav. - prof. A.D.Shteynberg) Karagandinskogo gosudarstvennogo meditsinskogo instituta.
(CHLOROMYCETIN) (INHIBITION)

POPOVA, N.K.

Certain pharmacological properties of synthomycin. Farm.i toks. 19 supplement:28-29 '56. (MLRA 10:7)

1. Kafedra farmakologii (zav. - prof. A.D.Shteynberg) Karagandinskogo meditsinskogo instituta.
(CHLORAMPHENICOL,
pharmacol. (Rus))

USSR / Pharmacology, Toxicology. Chemo-Therapeutic Preparations. Antibiotics. V

Abs Jour : Ref Zhur - Biologiya, No 6, 1959, No. 27921

Author : Popova, N.K.
Inst : Karaganda Medical Institute
Title : On the Problem of the Influence of Syntomycin on the Nervous System

Orig Pub : Tr. Karagandinsk. med. in-ta, 1957, 1, No 4, 241-244

Abstract : The intensity of Sechenov inhibition decreases on a background of the action of syntomycin (I). In animals with normal temperature, I does not induce the changes of thermoregulation. In rabbits with fever, after introduction of I, the greatest increase of T° takes place after 2 hours. In experiments on frogs, I induces an increase of the time of spinal reflexes (on the average by 35%). In experiments on the spinal muscle of leech, I in a concentration of 1 : 10,000 decreases the intensity

Card 1/2

Abs Jour : Ref Zhur - Biologiya, No 6, 1959, No. 27921

of the spinal muscle contractions of frog /leech?/. I does not induce an influence on the peripheral and sympathetic nervous systems.

Card 2/2

16

Popova, N. K. ANTIBIOTICS

"On the Ways of the Therapeutic Action of Synthomycin*," by N.K. Popova, Chair of Pharmacology (Head - Professor A.D. Shteynberg) of the Karaganda Medical Institute, Antibiotiki, No 3, May-June 1957, pp 24-28.

The author investigated the effect of Synthomycin upon two pathologi-

USSR / Human and Animal Physiology. Physiology of Work and Sport. T

Abs Jour: Ref Zhur-Biol., No 22, 1958, 102347.

Author : Popova, N. K.
Inst : Not given.
Title : Physiologic Evaluation of Various Methods of Weight Reduction in Heavyweight Athletes.

Orig Pub: Teoriya i praktika fiz. kul'tury, 1957, 20, No 6, 454-459.

Abstract: Artificial reduction of body weight (weight reduction; WR) did not induce an essential change of the functional condition of the organism in sportsmen. Even in WR larger than 3 kg. the magnitude of functional shifts which were induced by sports competition lay within the limits of fluctuations

Card 1/3

Card 2/3

USSR / Human and Animal Physiology. Physiology of Work T
and Sport.

Abs Jour: Ref Zhur-Biol., No 22, 1958, 102347.

Abstract: which were observed in sportsmen who did not perform WR. Staying in a steam bath for 10-15 min. which induced WR of 0.8-1.2 kg., induced an increase of pulse rate of more than 60 beats per min., increased the maximum blood pressure (BP) by 20-25 mm of mercury column, and lowered the minimum BP by 17-25 mm of mercury column. If WR was conducted with the aid of a light-heat bath (LHB) then the functional shifts were less significant. A stay in the LHB for 30-120 min., producing 0.8-1.6 kg. WR, induced an increase of pulse rate of 17-49 beats per min., increase of the maximum BP by 7-15 mm of mercury column and lowering of the minimum BP by 3-10 mm of the mercury column. A stay in the LHB for 45 min., inducing WR of 0.4-1.2 kg.,

Card 2/3

. USSR / Human and Animal Physiology. Physiology of Work T
and Sport.

Abs Jour: Ref Zhur-Biol., No 22, 1958, 102347.

Abstract: did not usually induce functional shifts of any significance. The magnitude of WR changed disproportionately to the duration of stay in LHB; lengthening the stay 4 times increased WR only twice. -- S. M. Shteynberg.

Card 3/3

120

USSR / Pharmacology and Toxicology--Chemotherapeutic Preparations V-6

Abs Jour: Ref Zhur-Biol, No 23, 1958, 107409

Author : Popova, N. K.

Inst : AS KazSSR

Title : The Experimental Study of the Effect of Synthomycin on Thermoregulation

Orig Pub: KazSSR Gylym Akad. khabarlary, Izv. AN KazSSR, Ser. med. i fiziol., 1958, vyp. 1 (9), 59-62

Abstract: Synthomycin in a dose of 200 milligrams per kilogram in rabbits with normal temperature does not produce changes in thermoregulation, whereas in rabbits with a fever the same does produces a marked increase in body temperature. A dose of 50 milligrams

Card 1/2

YAKOVLEV, N.N.; LESHKEVICH, L.G.; MAKAROVA, A.F.; POPOVA, N.K.

Comparative biochemical characteristics of different muscles in cats and rabbits. Ukr.biokhim.zhur. 31 no.1:75-88 '59. (MIRA 12:6)

1. Section of Biochemistry of the Research Institute of Physical Culture, Leningrad.
(MUSCLES)

YAKOVLEV, N.N.; YEREMENKO, N.P.; LESHKEVICH, A.G.; MAKAROVA, A.F.; POPOVA, N.K.

Development of strength, speed of motion, and endurance in sports training of different types. Fiziol.zhur. 45 no.12:1422-1429 D '59. (MIRA 13:4)

1. From the Department of Physiology and Biochemistry, Research Institute for Physical Culture, Leningrad.
(SPORTS)

POPOVA, N.K.

Effect of physical exercise of different types on the cholesterol content of the blood. Ukr.biokhim.zhur. 32 no.2:255-263 '60.
(MIRA 13:11)

1. Sector of Biochemistry of the Leningrad Research Institute of Physical Culture.
(EXERCISE)
(CHOLESTEROL)

NAUMENKO, Ye.V.; POPOVA, N.K.

Effect of hydrazine derivatives on the adrenal cortex function.
Izv. SO AN SSSR no.8. Ser.biol.-med.nauk no.2:135-138 '65.
(MIRA 18:9)

1. Otdel eksperimental'noy biologii Instituta tsitologii i genetiki Sibirskogo otdeleniya AN SSSR, Novosibirsk.

ZHUK, Ye.A.; POPOVA, N.K.; IL'YUCHENOK, R.Yu.; SHMERLING, M.D.; SERGIYEVSKIY, V.S.

Electrocardiographic and morphologic characteristics of experimental acute coronary insufficiency during the action of hydrazine derivatives. Pat. fiziol. i eksp. terap. 8 no.5:36-41 S-O '64. (MIRA 18:12)

1. Otdel eksperimental'noy biologii (zav. - doktor med.nauk B.B.Fuks) Instituta [redacted]logii i genetiki Sibirskogo otdeleniya AN SSSR; Novosibirskiy universitet, Institut eksperimental'noy biologii i meditsiny Ministerstva zdravookhraneniya RSFSR, Novosibirsk. Submitted June 25, 1963.

POPOVA, N.K.; IVASHKEVICH, E.I.; SERGIYEVSKIY, V.S.

Effect of iprazid on the dynamics of electrolytes in experimental acute coronary insufficiency. Pat. fiziol. i eksp. terap. 9 no.3:51-55 My-Je '65. (MIRA 18:9)

1. Laboratoriya farmakologii (zav.- kand. med. nauk R.Yu. Il'yuchenok) otdela eksperimental'noy biologii Instituta tsitologii i genetiki Sibirskogo otdeleniya AN SSSR i Institut eksperimental'noy biologii i meditsiny Ministerstva zdravookhareniya RSFSR, Novosibirsk.

POPOVA, N.K.; IVASHKEVICH, E.I.

Pharmacological prevention of fibrillation in acute ischemic lesion of the heart and the dynamic of electrolytes. Biul. eksp.biol. i med. 59 no.5:64-67 '65.

(MIRA 18:11)

1. Laboratoriya farmakologii (zav. kand. med. nauk R.Yu. Il'yuchenok) otdela eksperimental'noy biologii Instituta tsitologii i genetiki Sibirskogo otdeleniya AN SSSR i klinicheskaya laboratoriya (zav. - kand. med. nauk N.I. Yevnina) Instituta eksperimental'noy biologii i meditsiny Ministerstva zdravookhraneniya RSFSR, Novosibirsk. Submitted January 18, 1964.

POPOVA, N.K.; IVASHKEVICH, E.I.

Hydrazine derivatives and electrolyte dynamics in experimental acute coronary deficiency. Izv. SO AN SSSR no.4 Ser. biol.-med.nauk no.1:120-124 '65. (MIRA 18:8)

1. Otdel eksperimental'noy biologii i patologii Instituta tsitologii i genetiki Sibirskogo otdeleniya AN SSSR, i Institut eksperimental'noy biologii i meditsiny Ministerstva zdravookhraneniya RSFSR, Novosibirsk.

SIOZHENIKINA, L.V.; POPOVA, N.K.

Effect of apracid on oxidative phosphorylation in an experimental myocardial infarct. Vop. med. khim. 11 no.4:(60-63 Jl-Ag '65. (MIRA 18:8)

1. Otdel eksperimental'noy biologii Instituta terapii i genetiki Sibirskogo otdeleniya AN SSSR, Novosibirsk.

POPOVA, N.K.

Effect of muscular activity on the cholesterol content of the liver. Ukr. biokhim. zhur. 34 no.2:270-274 '62.
(MIRA 16:11)

1. Leningrad Research Institute for Physical Culture.

POPOVA, N.K.; IL'YUCHENOK, R.Yu.; SERGIYEVSKIY, V.S.

Role of monoamine oxidase inhibition in the antiarrhythmic effect of iprazid. Izv.SO AN SSSR no.8. Ser. biol.-med. nauk no.2:121-123 '63. (MIRA 16:11)

1. Institut eksperimental'noy biologii i meditsiny Sibirskogo otdeleniya AN SSSR, Novosibirsk.

POPOVA, N.K.

Effect of levomycetin on the motor functions of the gastrointestinal tract. Farm. toks. 24 no.3:335-338 My-Je '61. (MIRA 15:1)

1. Kafedra farmakologii (zav. - prof. A.D. Shteynbert) Karagandinskogo meditsinskogo instituta.
(LEVOMYCETIN) (GASTROINTESTINAL MOBILITY)

POPOVA, N.K.; IL'YUCHENOK, R.Yu.; SERGIYEVSKIY, V.S.

Antifibrillation properties of some hydrazine derivatives. Farm. i toks. 27 no.4:454-457 Jl-Ag '64. (MIRA 17:11)

1. Laboratoriya farmakologii (zav. - kand. med. nauk R.Yu. Il'yuchenok) i eksperimental'no animal'naya laboratoriya (zav. - kand. med. nauk V.S. Sergiyevskiy) Instituta eksperimental'noy biologii i meditsiny Sibirskogo otdeleniya AN SSSR, Novosibirsk.

YAKOVLEV, N.N.; KALEDIN, S.V.; KRASNOVA, A.F.; LESHKEVICH, L.G.; POPOVA, N.K.; ROGOZKIN, V.A.; CHAGOVETS, N.K.; KOSTYGOVA, L.A.

Characteristics of physiological and chemical adaptation of the body to muscular activity in relation to the length of rest intervals between tasks during training. Fiziol. zhur. 47 no.6:752-757 Je '61. (MIRA 15:1)

1. From the Research Institute of Physical Culture, Leningrad.
(EXERCISE) (REST) (METABOLISM)

YAKOVLEV, N.N.; LESHKEVICH, L.G.; MAKAROVA, A.F.; POPOVA, N.K.; ROGOZKIN, V.A.; CHAGOVETS, N.R.

Age peculiarities in the body's reaction to physical exercise. Fiziol. Zhur. 46 no. 7:834-841 Jl '60. (MIRA 13:8)

1. From the Research Institute of Physical Culture, Leningrad. (EXERCISE)

FIRSOVA, M.I.:PARSHAKOVA, A.L.; POPOVA, N.K.

Establishment of stable forest shelterbelts in the Tatar A.S.S.R.
Uch.zap.Kaz.115 no.8:55-62 '55. (MLRA 10:3)

1. Deystvitel'nyy chlen Obshchestva yestestvoispytateley
(Tatar A.S.S.R.--Windbreaks, shelterbelts,etc)

MARKOV, M.V.; BELYAYEVA, V.; POPOVA, N.K.

Vegetation of the Volga and Kama bottomland waters within the boundaries of the Tatar A.S.S.R. Uch.zap. Kaz.un. 115 no.5:111-152 '55. (MLRA 10:3)

(Tatar A.S.S.R.--Fresh-water flora)

POPOVA, N. L., kand. med. nauk

Blood lipoproteins in liver lesions. Klin. med. no.2:71-75 '62.
(MIRA 15:4)

1. Iz kafedry fakul'tetskoy terapii (zav. - zasluzhennyy deyatel' nauki prof. I. B. Likhtsiyer) Dushanbekskogo meditsinskogo instituta (dir. - zasluzhennyy deyatel' nauki dotsent Z. P. Khozhayev).

(LIVER—DISEASES) (LIPOPROTEINS)

POPOVA, N.L.; ASHEROVA, M.Ye.

Effect of a disturbance of the nutrition schedule on some indices of lipoid metabolism. Vop.pit 21 no.4:20-25 Jl-Ag '62. (MIRA 15:12)

1. Iz kliniki fakul'tetskoy terapii (zav. - prof. I.B. Likhtsiyer) meditsinskogo instituta, Dushanbe.
(NUTRITION)(LIPID METABOLISM)

POPOVA, N.I.

Treatment of anemias with a new Soviet preparation, fercoven. Probl. gemat. i perel.krovi 2 no.3:18-22 My-Je '57. (MLRA 10:8)

1. Iz kliniki fakul'tetskoy terapii (zav. - zasluzhennyy deyatel' nauki prof. I.B.Likhtsner) Stalinabadskogo meditsinskogo instituta (dir. - chlen-korrespondent Akademii nauk Tadzhikskoy SSR Ya.A. Rakhimov)

(ANEMIA, therapy,
iron saccharate (Rus))
(IRON, therapeutic use,
saccharate in anemia (Rus))

PAPOVA, N. L.

The therapy of subtropical anemia with folic acid, vitamin B_{12} and with iron. [illegible] Likhtsier [illegible] Popova, [illegible] Blumental [illegible] (Med. Inst. [illegible]). *Problemy* [illegible] The basic [illegible] 22, 1956 [illegible] a complex [illegible] of subtropical anemia is B_{12} and [illegible] acid, vitamin There [illegible] interrelation in the metabolic [illegible] each case cance of each of these factors. The administration of vitamin [illegible] and of folic acid lowers the Fe concn. of the blood serum, and the intensity of Fe utilization by the bone marrow is enhanced.

B. S. Levine

Med 4

POPOVA, N.L., assistent

Serum iron in subtropical anemias. Trudy Stal.med.inst. 16:47-62 '55
(MIRA 11:8)

(ANEMIA)
(IRON IN THE BODY)

POPOVA, M.L., assistent, SHIPORINA, L.I., ordinator

Clinical aspects and treatment of hypoplastic anemia. Trudy Stal. med.inst. 16:135-141 '55 (MIRA 11:8)
(ANEMIA)

USSR / Pharmacology, Toxicology. Hemopoietic Drugs. V

Abs Jour: Ref Zhur-Biol., No 9, 1958, 42409.

Author : Popova, N. L.
Inst : Not Given.
Title : Treatment of Anemia with a New Soviet Preparation-Fercoven.

Orig Pub: Probl gematol. i perelivania krovi, 1957, 2, No 3, 18-22.

Abstract: Fercoven was administered to 34 patients with various forms of anemia (F, an iron preparation). F was injected intravenously, in doses of 5 ml (100 mg of iron); the course of treatment: 6-15 injections. It was demonstrated that F is effective in uncomplicated posthemorrhagic anemia (in 3 out of 5 patients) and also in macrocytic, but more often in hypochronic anemias, associated with

Card 1/2

LIKHTSIYER, I.B., professor; POPOVA, N.L.; BLYUMENTAL', R.F.; LAVROVA, N.N.

Treatment of subtropic anemias with folic acid, vitamin B_{12} and iron. Probl.gemat. i perel.krovi 1 no.6:25-32 N-D '56. (MLRA 10:1)

1. Iz fakul'tetskoy terapevticheskoy kliniki (zav. zasluzhennyy deyatel' nauki prof. I.B.Likhtsiyer) Stalinabadskogo meditsinskogo instituta.

(ANEMIA, ther.
folic acid, vitamin B_{12} & iron)
(FOLIC ACID, ther. use
anemia, with vitamin B_{12} & iron)
(VITAMIN B_{12} ther. use
anemia, with folic acid & iron)
(IRON, ther. use
anemia, folic acid & vitamin B_{12})

POPOVA, N.L. LIKHTSIYER, I.B. BLYUMENTAL', R.F. LAVROVA, N.N.

"Therapy of Subtropical Anemias by Folic Acid, Vitamin B_{12}, and Iron," by Prof I. B. Likhtsiyer, N. L. Popova, R. F. Blyumental', and N. N. Lavrova, Faculty Therapeutic Clinic (head, Prof I. B. Likhtsiyer, Honored Worker of Science), Stalinabad Medical Institute, Problemy Gematologii i Perelivaniya Krovi, Vol 1, No 6, Nov/Dec 56, pp 25-32

Sixty-seven patients suffering from anemia were classified into three groups for appropriate therapy of chronic enterocholitis, hepatosplenomegaly, and the combination of both. Disturbance was noted in the metabolism of substances essential for hemopoiesis and especially folic acid, vitamin B_{12} and iron.

SUM. 1287

Blood studies revealed that:

1. Basic factors in the pathogenesis of subtropical anemias are the combined disturbance of the metabolism of folic acid, vitamin B_{12}, and iron, each of which is necessary for normal hemopoiesis.

2. Therapy by folic acid or vitamin B_{12} was effective in a significant percentage of cases.

3. Iron administered alone regardless of its deficiency was seldom effective, but after a course of therapy by vitamin B_{12} or folic acid, iron led to further rise of hemoglobin content.

4. Satisfactory results were obtained most frequently by a combination of folic acid or vitamin B_{12} with iron.

POPOVA, N. L.

"The Serum Iron of the Blood During Endemic Anemia in Tadzhikstan." Cand Med Sci, Stalinabad State Medical Inst imeni Abuali-ibn-Sino, Stalinabad, 1954. (KL, No 7, Feb 55)

SO: Sum. No. 631, 26 Aug 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions. (14)

SAPOZHNIKOVA, R.G., kand.med.nauk; POPOVA, N.M., kand.med.nauk;
KORENEVSKAYA, Ye.I., kand.med.nauk

Vocational training in the schools of Grodno and its hygienic evaluation. Zdrav. Bel. 7 no.9:48-52 S '61. (MIRA 14:10)

1. Institut gigiyeny detey i podrostkov AMN SSSR i Belorusskiy nauchno-issledovatel'skiy sanitarno-gigiyenicheskiy institut.
(GRODNO--CHILDREN--EMPLOYMENT)

POPOVA, N. M.

POPOVA, N. M. -- "Hygienic Basis for the Duration of Changes in the Third and Fourth Classes of the General School." First Moscow Order of Lenin Medical Inst imeni I. M. Sechenov. Moscow, 1956. (Dissertations for the Degree of Candidate in Medical Sciences).

SO: Knizhnaya Letopis', No 9, 1956.

BUKREYEVA, D.P., nauchnyy sotrudnik; DEMINA, E.M., nauchnyy sotrudnik; POPOVA, N.M., nauchnyy sotrudnik.

Improvement of artificial illumination of school classrooms. Gig i san. 24 no.4:83-85 Ap '59. (MIRA 12:7)

1. Iz Moskovskogo nauchno-issledovatel'skogo instituta sanitarii i gigiyeny imeni F.F. Erismana Ministerstva zdravookhraneniya RSFSR.
(SCHOOLS, illumination (Rus))
(ILLUMINATION, of schools (Rus))

SAPOZHNIKOVA, R.G., kand.med.nauk; POPOVA, N.M., kand.med.nauk; KORENEVSKAYA, Ye.I., kand.med.nauk

Work routine of students during industrial training. Gig. i san. 26 no.5:28-33 My '61. (MIRA 15:4)

1. Iz Instituta gigiyeny detey i podrostkov AMN SSSR i Belorusskogo nauchno-issledovatel'skogo sanitarnogo instituta.
(CHILDREN--EMPLOYMENT)

SAPOZHNIKOV, R.G., kand.med.nauk; POPOVA, N.M., kand.med.nauk

Hygienic prerequisites for the organization of occupational training of upper class students. Gig.i san. 25 no.8:27-32 Ag '60. (MIRA 13:11)

1. Iz Moskovskogo nauchno-issledovatel'skogo instituta sanitarii i gigiyeny imeni F.F.Erismana Ministerstva zdravookhraneniya RSFSR.
(VOCATIONAL EDUCATION) (SCHOOL HYGIENE)

POPOV, V. N.

Popova, V. N. "Products of the bottom of the Barsk Sea and means of using them", Problemy Arktiki, 1948, No. 2, p. 76-92, - Bibliog: 26 items.

SO: U-2888, 12 Feb. 53, (Letopis' Zhurnal'nykh Statey, No. 4, 1949).

POPOVA, M. M.

Marine Flora

Riches of the sea. Nauka i zhizn' 19 No. 1, 1952.

9. Monthly List of Russian Accessions, Library of Congress, March 1952. ~~1953~~, Uncl.

POPOVA, N.M.; SOKOL'SKIY, D.V.

Hydrogenation of sunflower seed oil over Ni/ZnO catalysts. Trudy Inst.khim.nauk AN Kazakh.SSR 7:26-32 '61. (MIRA 15:8)
(Sunflower seed oil) (Hydrogenation) (Catalysts)

POPOVA, N.M.

Sorption and activation of hydrogen with metals of the eight group. Trudy Inst.khim.nauk AN Kazakh.SSR 7:75-92 '61. (MIRA 15:8)

(Hydrogen) (Sorption) (Catalysis)

POPOVA, N.M.

Hygienic organization of instruction and training in preparatory classes. Uch. zap. Mosk. nauch.-issl. inst. san. i gig. no.2:26-29 '59. (MIRA 16:11)

1. Moskovskiy nauchno-issledovatel'skiy institut sanitarii i gigiyeny imeni F.F. Erismana.

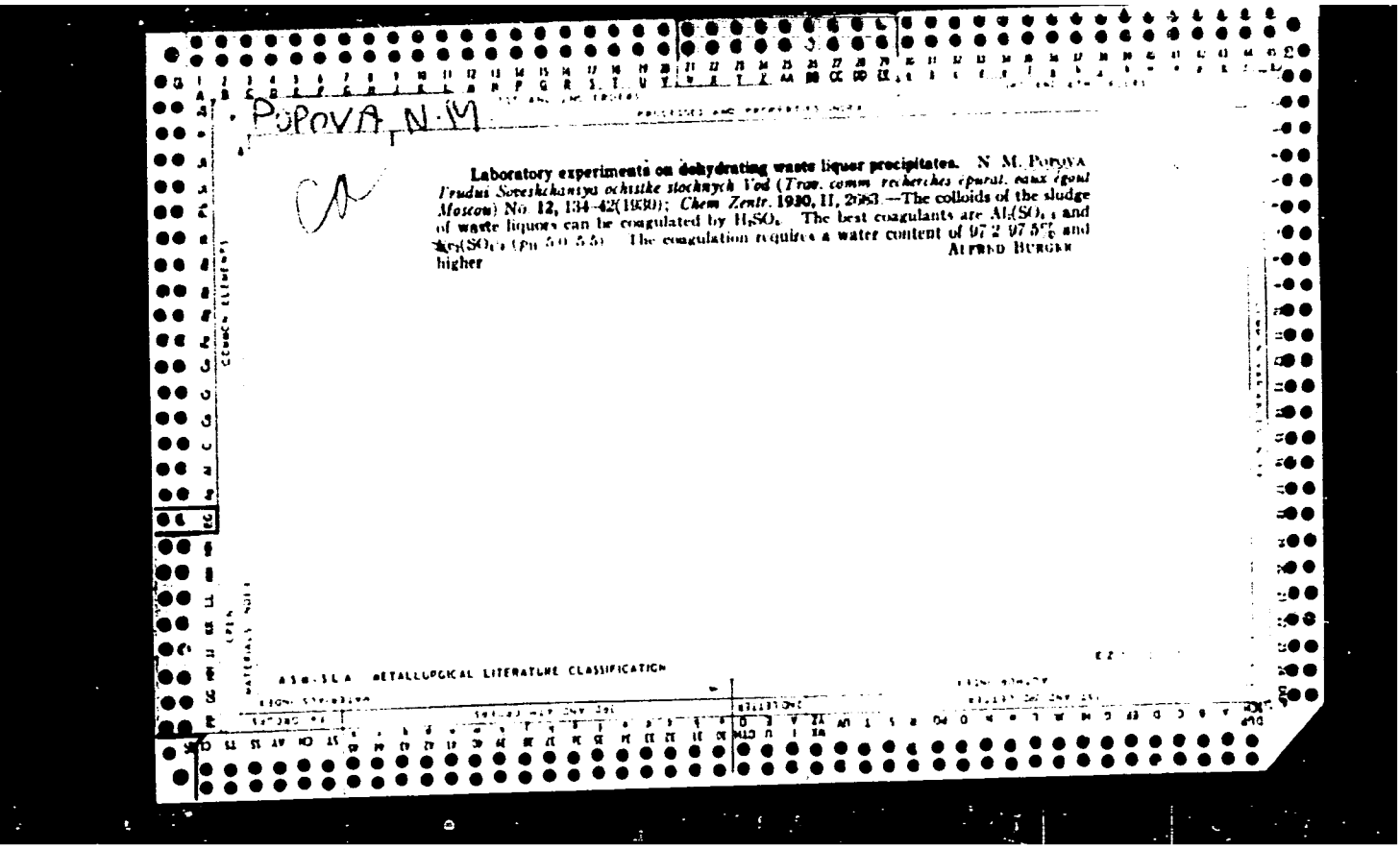
TOKHTAKHODZHAYEV, S.T.; KOLONTAROV, I.Kh.; ROZOV, M.N.; BURSHTEYN, I.I.; KHRULEVA, T.V.; ARETSKAYA, Yu.S.; POPOVA, N.M.

Production of glinite by burning in a rotary kiln. Uzb. khim. zhur. 7 no.5:43-49 '63. (MIRA 17:2)

1. Institut khimii AN UzSSR.

BORISOVA, P.S.; POPOVA, N.M.; SAVRANSKAYA, T.M.

Designing a sewage-purification plant in Moscow. Gor.khoz.Mosk. 36 no.1:41-44 Ja '62. (MIRA 16:1)
(Moscow--Sewage--Purification)



POPOVA, N.M.

Laboratory experiments on dehydrating waste liquor precipitates. N. M. Popova *Trudui Soveshchaniya ochistke stochnych Vod* (*Trav. comm. recherches eparat. eaux égout Moscow*) No. 12, 134–42(1950); *Chem. Zentr.* 1950, II, 2083.—The colloids of the sludge of waste liquors can be coagulated by H_2SO_4. The best coagulants are $Al_2(SO_4)_3$ and $Fe_2(SO_4)_3$ (pH 5.0–5.5). The coagulation requires a water content of 97.2–97.5% and higher

ALFRED BURGER

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

POPOVA, N.M., kandidat tekhnicheskikh nauk; KUDINOV, A.I., inzhener.

Remote control and automatic operation in the Moscow sewage disposal plant. Gor.khoz.Mosk. 27 no.11:19-22 N '53. (MLRA 6:11)
(Moscow--Sewerage) (Remote control)

POPOVA, N.M.; KARPINSKIY, A.A.

Effect of industrial waste waters on the operation of the purification stations of the Moscow sewerage system. Gor.khoz.Mosk. 30 no.5:16-18 My '56. (MLRA 9:8)

(Moscow--Sewerage)

KARPINSKIY, Aleksey Alekseyevich, dotsent, kand.tekhn.nauk [deceased]; POPOVA, N.M., red.; RACHEVSKAYA, M.I., red.izd-va; SHLIKHT, A.A., tekhn.red.

[Recent technological achievements in the fermentation of sewage sludge] Novye dostizheniia v tekhnologii sbrazhivaniia osadkov stochnykh vod. Moskva, Izd-vo M-va kommun.khoz.RSFSR, 1959. 93 p. (MIRA 13:2)

(Sewage--Purification)

POPOVA, N.M., kand.tekhn.nauk; PERVAKOVA, T.P., gidrobiolog

Improving sanitary conditions of the Moskva River. Gor.khoz.Mosk. 33 no.2:29-32 F '59. (MIRA 12:3)
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Condensation of activated sludge at sewage-treatment plants in Moscow. Gor. khoz. Mosk. 34 no.9:28-30 S '60. (MIRA 13:9)
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TITLE: X-ray structural study and metallographic analysis of the Nb-Co-C system

SOURCE: AN SSSR. Izvestiya. Metally, no. 4, 1965, 159-162

TOPIC TAGS: alloy phase diagram, cobalt alloy, niobium alloy, carbide

ABSTRACT: The binary systems which make up the ternary Nb-Co-C system have been studied rather extensively. On the other hand, only the solubility of NbC in cobalt has been studied in the ternary system as a whole. It has been established that Co can dissolve 0.8 wt. % of NbC (Shchetilina, Ye. A., Chaporova, I. N., "Interaction of Niobium Carbide with Cobalt," *Metallovedeniye i termicheskaya obrabotka metallov*, 1959, No 6) or 5% NbC (Edwards, R., Rein, T., "Solid Solubilities of Stable Carbides in Co, Ni and Fe," *Pulvermetallurgie. 1 Plasee Seminar*, 1952, Wien, 1953, 232). The authors studied the Nb-Co-C ternary system as a representative of the important group of Me^{I}-Me^{II}-C systems, where Me^{I} is a refractory metal and Me^{II} is a metal of

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in the iron group. The various compositions in the system were prepared by powder metallurgy methods using niobium, graphite and cobalt powders. The starting materials were mixed for 24 hours, pressed into briquettes of 10 grams each, and heated in a vacuum of 10^{-3} mm Hg at a temperature of $\sim 0.8\ T_{melt}$. The sintered billets were melted in an arc furnace in a helium atmosphere. The phase equilibrium diagram for the Nb-Co-C system at 1000°C is shown in fig. 1 of the Enclosure. It was found that no ternary compounds are formed. The cobalt-based solid solution and the binary compounds $NbCo_2$ and NbCo form two-phase alloys with the carbide NbC, while the compound NbCo is formed with the carbide Nb_2C. The phase equilibrium diagram shows a previously unknown ternary compound (η-phase) close to the composition Nb_3Co_3C. This compound is in equilibrium with NbC, Nb_2C, Nb, NbCo and $NbCo_2$. In addition, NbC is in equilibrium with cobalt and with $NbCo_2$. Orig. art. has: 2 figures.

ASSOCIATION: none

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